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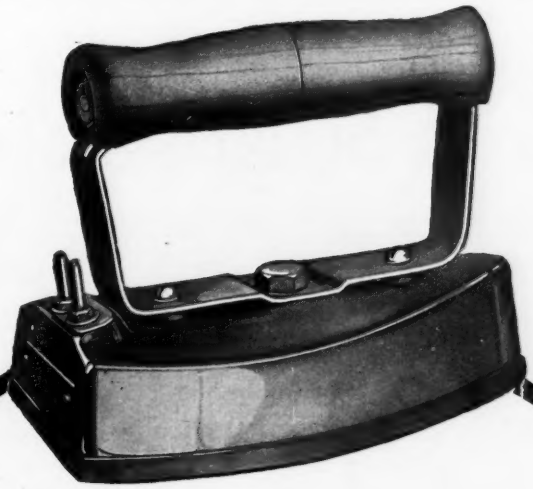
APRIL, 1910

SELLING ELECTRICITY

The Magazine of Electrical Progress



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have sold themselves on trial

YOU cannot afford to handle an iron that will not sell itself on trial. Once you have persuaded the prospective customer of the many advantages of using an electric iron, the iron that you put out on trial must make good your claims, not only for the trial period but for years. ¶The vital part of any electric iron is the heating unit. To produce a unit for the G-E Flatiron that would possess all the necessary resistor qualities without any of the disadvantages of the many alloys now on the market, thousands of dollars were spent in our Research Laboratories. Expert metallurgists mixed in their crucibles hundreds of combinations of rare and common metals. ¶As the result of these experiments, "Calorite," the wonderful resistance material, was discovered. "Calorite" is the most effective material known for transforming electricity into heat in a flatiron. It is made in our own factories and used in all General Electric Flat Irons. ¶No other manufacturer of irons makes and controls the material used for resistors.

GENERAL ELECTRIC COMPANY

The Largest Electrical Manufacturer in the World

Schenectady, New York

2485

Vol. VII No. 3

Selling Electricity

Contents for April, 1910

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GEORGE WILLIAMS

Chairman Commercial Program Committee, National Electric Light Association
Thirty-third Convention, St. Louis, Mo., May 23-28, 1910

SELLING ELECTRICITY

Edited by FRANK B. RAE, JR. *EARL E. WHITEHORNE, Managing Editor*

Get Ready for St. Louis

FOR a number of reasons, the 1910 Convention of the National Electric Light Association will be the largest and most important in the history of the organization. That it will also be the most valuable seems naturally to follow.

In the first place, the membership has grown even beyond the hopes of the hard-worked and little-appreciated membership committee, and now numbers over 5000. It is the hope and expectation of the officers to have an even 6000 by the time the Convention is called to order.

Second, the place of meeting, St. Louis, is the center of a large and rapidly growing central station district, wherein the lighting fraternity consists of hustling, earnest men intent upon getting the most out of every opportunity. They realize that the National Convention is an opportunity to brush up against the leaders of the industry upon terms of familiar friendship, to learn by personal contact about developments and methods of which they have heretofore been compelled to get second-hand knowledge from the technical press.

But, finally, this Convention is important because it carries the commercial movement outside the mere solicitation of new business and establishes the commercial man as of equal importance with the engineer. The Commercial Day program is no longer concerned with the details of soliciting: it launches into matters of commercial and company policy, inter-department organization, the standardization of different classes of business, and national movements for developing business.

When it is remembered that the first Commercial Day was set aside at the Washington Convention only three years ago, the progress made is remarkable. Companies which looked upon the movement as undignified and not to be countenanced are now humbly asking for business advice and assistance. Commercial plans which were characterized as bizarre and extravagant are now being copied by the conservatives long after the leaders in the field have abandoned them as worn out and unnecessary. Men who considered the discussion of newspaper advertisements and solicitors' arguments

as profitable are now engaged in matters of fundamental policy. This rapid progress from primary grade subjects to those of basic importance is natural because the central station industry has been commercialized only a very short while. Instead of an engineering problem, like that of a street railway, the central stations now realize that they are running a manufacturing, merchandizing business like the shoe manufacturer or corner grocer—the chief difference being that the central station is infinitely harder to run and requires a degree of knowledge in more subjects than probably any other business.

The central station commercial development had its birth in a National Electric Light Association Convention and its growth has been most plainly evidenced by the character and breadth of the Commercial Day programs. Each year there have been great strides forward. Each year the papers presented have set the pace for future development. Not a man ever attended one of these sessions but came away with a wealth of practical, usable ideas and plans which have made money for himself and for his company.

It would be interesting to secure the statistics covering the work of those who have come to high positions through soliciting or new business departments. Half-a-dozen could be named, off hand, who attended the Washington Convention as solicitors and are now managers of companies or holding important posts with syndicates. These men are not engineers—not that engineering knowledge is not desirable, and to a large degree essential, but those whose money is invested in lighting plants realize that more is needed in the management of a central station than the ability to conserve coal and lay out an economical distribution system. Stockholders want dividends, increased net earnings, reasonable franchise rights. And these are the things in which the commercial man deals. Technical problems have heretofore been paramount: to-day they are only equal with commercial problems: who knows but what, in a few years more, they will have sunk to comparative insignificance. One might point to the average manufactory where the factory manager is a mere superintendent, a man who gets out the goods. Of equal importance and of large earning power is the sales manager. Above both is the general manager. The latter may have grown up with the factory or he may have come up from the sales force; in either case he is boss because he knows both ends of the business and because he can develop net profits in larger measure than anybody else in the organization. That is the real measure of ability—profits, not engineering or sales.

The National Electric Light Conventions have developed, within the last several years, a great many of these "net profit managers." A good percentage of them have been taken from the soliciting department. The Commercial Days have taught them business shrewdness, the Executive Sessions have taught them policy, the Technical Sessions have told them what is best and latest in engineering. In no other place can a man in the electric light industry get such a broad outlook, and in no other school can he more surely

or quickly get back in valuable, profit-earning ideas the expense of his schooling.

Get ready for St. Louis. The Association needs you and you need the Association.

A Commercial Man's Competition

THE $1500 prize offer recently made by a Cleveland concern for "the twenty-one best solutions of the rate problem" is of particular interest to the commercial men of the industry.

Your rate is your selling price, primarily. The fact that it is a "problem" arises from the fact that it is a combined selling price of two commodities—current and service—and of these one is as variable as the wind.

Too many new-business men consider their own rates as something fixed. They aren't. While a change is always difficult and sometimes well nigh impossible, this cold, hard fact should never be overlooked: A selling price which entails loss, or which hampers complete and profitable development of the market cannot be maintained.

It must not be expected that anyone is really going to solve the rate problem just yet, because a solution—using the word in its proper meaning—is impossible where one deals with variables. The best we can hope to arrive at is a fairly just compromise. But even were an absolute rate devised, it is altogether a question whether it could be introduced either by cajolery or force. Expediency is as much of a rate factor as the cost of distribution.

Everybody, of course, knows that the straight kilowatt basis is unjust or unprofitable—that the central station gets either too much or too little for its service. Similarly, the Hopkinson system (readiness-to-serve charge plus a low kilowatt-hour charge) makes no provision for higher efficiency lamps. The Doherty rate goes a step farther and leaves a loophole whereby the central station may not suffer from the high efficiency lamps, but whether it is expedient to use the loophole is a question. The double rate has advantages, but is unpopular in small commercial installations. The controlled flat rate is about the only one that has had much recent favorable attention.

Looking at it from all angles, the man who wins a prize in solving the rate problem will have his work cut out for him. It is a combination problem in accountancy, engineering and business. So far the accountants and engineers have been most prominent in the discussion. It is to be hoped that in this competition a business man will introduce a few substantial, money-making ideas. What we need is a rate that will satisfy the public, increase business and net a fair profit on every customer.

It sounds easy. Try it.

The usual equipment—a bare 16-candlepower lamp over a shoe machine. The workman's eyes are strained by looking into the light

Economical equipment of the same machine—an 8-candlepower lamp with metal reflector. 50% saving in current and faster work by the operative

Profit From Industrial Lighting

How this Class of Business, Ordinarily Considered Valueless to the Central Station, May be Used to Develop Power Load

By Frank B. Rae, Jr.

A FACTORY manager was carefully going over estimates and plans submitted by the power salesman of a central station. The figures were convincing; he was practically ready to sign the contract, when—

"How about the lighting?"

"Use gas arcs," said the electric solicitor.

"No, thanks," was the reply. The factory manager handed back the power proposition and turned to his desk.

On that question, "How about the lighting?" hinges many a power deal.

The lighting of an industrial establishment is undesirable from the central station standpoint and expensive to the man who buys central station power. It is peak-load business that burns on the average less than 400 hours per year—sometimes as little as 250 hours. Under favorable circumstances it has little better than a 5% load factor; in other words, if you can afford to sell 24-hour-a-day power for one cent per kilowatt hour, you will have to charge something like ten to twelve cents per kilowatt hour for the lighting to secure the same income per kilowatt of station capacity. While one may deceive oneself with averages and argue that this particular class of business is no worse than many others, a moment's thought will show that, at the rates usually made, it actually costs the central station money.

Now, no central station can afford to render service or sell merchandise at a loss. It is a principle of business that profit on one transaction does not excuse loss upon another. Concessions which entail loss may be cross-charged to advertising, to commissions or to special expense, but they should never be allowed to offset a specific profit. The man who strikes an average between the power profit and lighting loss in an industrial installation and is content with a profit on the double deal, deceives and weakens himself. He is hiding from himself an item of loss which it is his duty to reduce or eliminate; he is disguising a profit which it is his duty to analyze and understand. He is, if one wishes to apply the fine test of ethics, deceiving his customer by overcharging for one service in order that he may come out whole on another, viewed from which angle the transaction becomes unfair discrimination against other customers who use power but no light. It may be argued that this is a necessary evil. An evil—yes—but not necessary.

The trouble is largely that we have taken the evils of industrial

lighting too much for granted; now let us do a little analyzing. In the first place, it is peak-load business which must be accepted at rates that are unprofitable. Every twenty incandescents, every pair of arcs, represent a kilowatt of station and line capacity tied up for an insignificant eighty minutes or less daily use. Obviously, the thing to do is to reduce this demand and release this equipment. We may have no immediate profitable market for the current, but that is immaterial—the market can be found or made. To reduce the industrial lighting load is not difficult, consisting only of applying the familiar principles of illuminating engineering to purely utilitarian installations. High efficiency lamps and properly chosen reflectors solve the problem.

Analyzing farther, what will be the full result of this practice? There are shops and factories on circuit which use light but not power, such as those located in power buildings or operated by gas or steam engines; will not the economic handling of such lighting installations impress these customers with the idea that we know our business?—and will not that impression give us standing and authority when the time comes to propose a motor installation? Or, in the case of a small manufacturer in a power building, will not a cheap lighting system enable us to crowd in a motor for overtime work, thus by practical demonstration proving the economy and convenience of electric drive? Will not a combination light and power proposition to

Two 32 candlepower carbon lamps give very inadequate light over this textile machine as will be seen by the dark ends

isolated plants look better if we effect substantial savings in the lighting costs, even though the power costs may remain practically unchanged? These questions, and many more which local conditions will readily suggest, lead inevitably to one conclusion:—The scientific handling of lighting problems is as necessary and as profitable in the industrial as in the mercantile field.

Two 40-watt tungstens, properly installed with reflectors, save over 100 watts and give better illumination

Let me cite an extreme example. A New England manufacturer was about to remove his mill to another town. The power salesman of the lighting company went after the business, but was unable to do anything with the prospective customer because he could show no particular economy. Finally, a Nernst lamp salesman got on the job. He learned that the mill made high grade madras shirtings in delicate tints and that the direct current arcs previously used were not satisfactory from the standpoint of color-value. His demonstration convinced the manufacturer that the glower lamps were what were needed and his arguments finally led to the abandonment of the old direct current equipment in favor of central station alternating current service. Thus the lighting company secured a 150-horsepower customer solely through the influence of the lighting.

Another case is that of a small manufacturer in a power building. When this customer first demanded lighting service he was treated very shabbily by the central station representative who resented having to supply the unprofitable demand. The equipment was thrown in "any

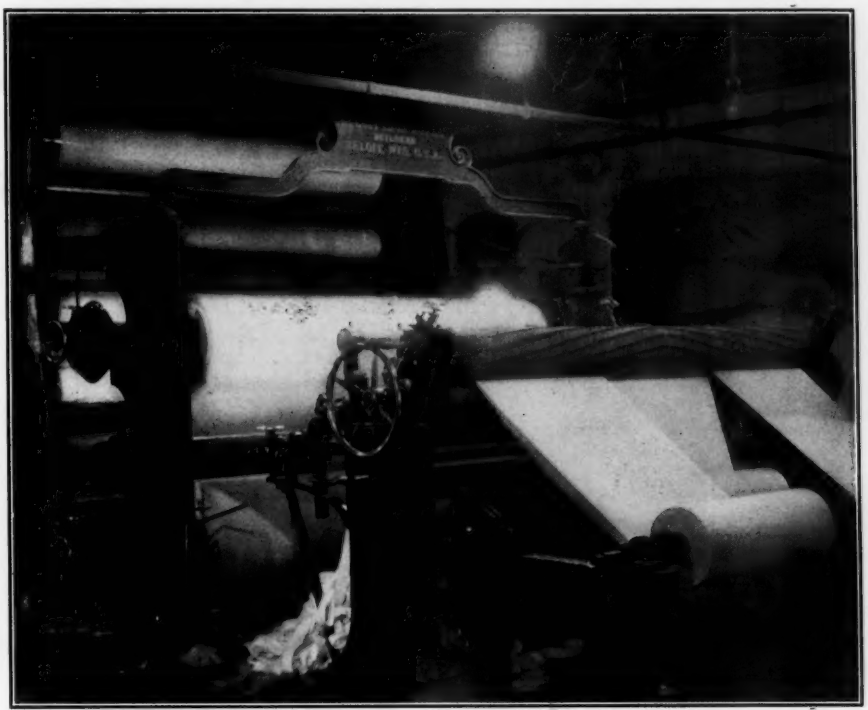
old way," and the consequent lighting bills were exorbitant. Later a new solicitor was employed who developed the foolish notion that there might be business found in that building. His investigation showed that several of the tenants, requiring power for overtime work, were clubbing together to buy a small gas engine, having decided that current for a motor would be too expensive. After re-arranging the lighting so that the peak demand was reduced by over one-half, this solicitor was able to put in a fifteen horse-power motor that ran from 6.30 to 10 almost every night, and when the manufacturer moved the next year, as he was forced to do owing to the growth of his business, the new plant was entirely on central station service.

The reason these opportunities abound is because industrial lighting until within the past year or two has not had any attention whatever. It is one of the most amazing things that, in our industrial plants which are built on the most approved plans and equipped with the most expensive tools and machinery, the lighting is so primitive. Bare incandescents of low efficiency, ancient arcs that sputter and go out, fish-tail gas burners that only serve to vitiate the air, even dripping, stinking oil lamps are in service in mills and shops where high-priced mechanics work in expensive materials upon machines that cost hundreds, sometimes thousands, of dollars. The fact that these primitive lighting methods are wasteful of time and lead to accidents and spoilage of material seems not to have been realized. And that this ancient lighting has been almost as expensive to the central stations as to the manufacturers is another point which it is well to bear closely in mind.

As to the ways and means of effecting economies and improving the illumination of shops, much has recently been done by manufacturers of both lamps and reflectors. Tube lamps are being used with great success in certain classes of manufacturing where color-value is of no importance. Various types of arcs are making headway, especially the intensified arcs. Incandescent lamps of the higher efficiencies are being installed broadcast with great satisfaction. The requirements of different industries are receiving careful and intelligent study by specialists with manufacturing as well as illuminating engineering experience. Of course, the larger part of the missionary work along these lines has been carried on among large manufacturers whose requirements repay in sales for the preliminary work done, and such manufacturers generally maintain their own power plants; still, much has also been done of an educational nature which reaches the smaller factory and shop—the man on the central station circuit. The trade press of the iron, textile and shoe industries has been filled with articles on the subject of industrial lighting. The physical effect of poor lighting has had some investigation upon the part of legislators who are considering the feasibility

of state control over lighting in factories as over ventilation and heating. Everywhere we find the subject being agitated. It is high time for action.

The point for the central station commercial man to realize is that the present business is unprofitable and that the lower he can cut this demand the more current he will have for sale at more profitable rates. A second point is that the reduction of industrial lighting bills gives the power department a friendly standing in the eyes of manufacturers, which is desirable and necessary to sell power. Industrial lighting will probably never be profitable, but it can be made less unprofitable than is generally the case at present, and it can be used as a lever to gain business instead of acting as a deterrent.



An example of paper machine lighting. The cost was reduced 50% in this mill and the illumination improved over 100% by test.

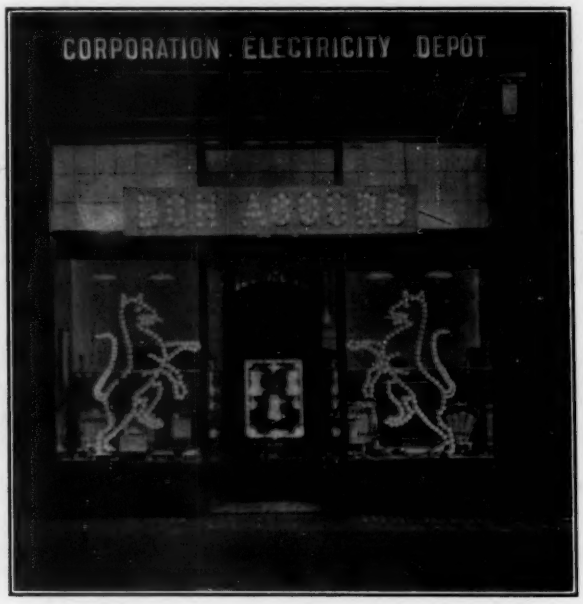
George Williams will preside over the Commercial Day Sessions. 'Nuff said.

A Sensation in Aberdeen

BRITISH central stations have the reputation of being far less progressive than their American contemporaries in matters pertaining to commercial development. Consequently the new electric signs which have been installed on the office of the Aberdeen Corporation Electricity Department have caused a great deal of comment in England. A recent issue of *"The Electrical Times"* (London) said: "From a spectacular point of view it was such a huge success that the police had to keep the crowd moving, and the photographer had to wait until the wee sma' hours of the morning before he could shoot his prey."

A like display could hardly hope to create such a sensation in an American city, but taking comparative conditions into consideration this evidence of enterprise should put to shame those central stations who still hang back and neglect the proper illumination of their office fronts.

This is said to be the only central station office sign in England. The two leopards rampant and the *Bon Accord* represents the Aberdeen coat of arms.



Office of the Aberdeen Corporation Electricity Department, England

Business versus Engineering?

Is the Central Station an Engineering Enterprise or a Business Venture?

By W. E. Bayard

THE man virtually at the head of the United States Army is a doctor. The man at the head of the United States Steel Corporation is a lawyer. The man who did the most difficult piece of lighthouse construction in America is an artist. This does not mean that the United States Army is devoted wholly to the practice of medicine, or that the Steel Trust is a law office, or that the lighthouses are made of canvas and paint. It indicates simply that training in one profession does not automatically bar a man from achievement in other lines. Because you are an electrical engineer does not prevent your being a good business man; because you are a salesman is no reason why you should not understand, appreciate and even solve the problems of generation and distribution. Because you are running a central station is no reason why you should not profit by the experience and study of men in other lines of business For the central station *is* a business and the laws of business apply here as elsewhere in the industrial and mercantile fields—the laws for success are the same for all.

How many times has a salesman asked you, "Who's the man to see in the Bigtown Light & Power Co.?" And in one case you know that the *active business man* for the company is the treasurer; in another, the general manager, a vice-president, the contract agent or even a chief clerk. In every organization, no matter in what field of work, the strongest man eventually takes the helm, and the best business head may be found and developed in any one of a dozen places.

Yet central stations seem to differ from other commercial establishments in that there is no clearly defined and regularly recognized relationship between the various departments of the business. In one company you find the sales organization of the utmost importance, while in another it is apparently looked upon as an unavoidable nuisance. In the one case the practice is to sell all the current the generators can produce, and then to buy more generators: in the other, the plan is to "stand pat" and make only such extensions as public clamor make necessary. The difference of opinion is fundamental. It is a basic business question. Either one side or the other is right. Which one? Is the electric light and power company organized to sell as much current as their engineers can produce, or to manufacture current which the public demands?

Probably no central station man has ever publicly expressed the latter view, but nevertheless it is the subconscious and quite apparent attitude of a great many managers,—especially, almost solely, those of technical training. The power house problem to them is the more important and interesting and they

seem to be driven to the sordid commercial side only by the pinch of pocket or the clamor of stockholders.

And how does this compare with the attitude in other lines of business —the manufacturers of sockets or wire, for instance?

Did you ever know a wire company sit back and wait for a customer to *demand* its product?—are not *sales* the chief concern of the socket maker? To such manufacturers the sales department is the eye and the strong right arm, the advertising department is its assistant. The factory, the stock-rooms, the shipping department are charged only with keeping the sales department's promises and making its word good. Even to the customers themselves the sales representative is the house. Just so with the department store: the aim of every man is to sell, sell, sell; and those who buy and those who advertise, and those who display and those who ship and deliver—one and all serve the same end: they help to sell the goods. And in what respect does the central station differ from these other business enterprises? For the literal object of every plant in the country is to produce dividends, and dividends, salaries, equipment and coal bills are paid only through sales.

To continue the comparison another point and further illustrate the tendency among some central stations toward tying the horse to the tailboard, consider what manner of man the sales manager should be. In our socket or wire factory the management and directors look long and diligently before they choose a chief of sales. He must be a man who, first of all, knows his market. He must possess the faculty of handling men, with sound business judgment—not only his salesmen, but his customers and his competitors. Tact, diplomacy, political acumen, an analytical mind are all necessary. Finally and most important, he must have the sales sense in his finger ends. It is he who sells the output of the plant and the relations of the firm with the trade are in his keeping. But how many central stations do you know where the counterpart of this man is to be found? Generally there is a "contract agent," a young chap promoted from the bookkeeping department or from the meter department, paid a nominal salary and doing nominal work. He is not, cannot be, a sales manager, in any sense of the word—rather an accepter of orders.

"But," you say, "he has his general manager over him." True enough, and so has the sales manager of the socket factory his president and his board of directors. The situations are exactly analogous, but on the one hand is a failure to appreciate the relative importance of production and sales. That is the underlying evil that is cursing hundreds of central stations to-day and has been the main cause of popular distrust and antagonism. For example, a New England central station of moderate size has gross sales of over $500,000. per year. The sales department is in the hands of a graduate meter-reader whose chief qualification was that "he has been with the Company a long while and knows our policies."

The management does not realize that a sales manager is hired to *make* policies, not to follow them.

Since the public utility corporation is a business proposition, accepted business methods must prevail if the fruits of good business are to be enjoyed. The greatest problem before the head of any manufacturing establishment is sales, and his sales manager is almost without exception his most efficient, most trusted and most adequately paid assistant, not a mere clerk graced with a title shorn of power. This should apply to the manufacturer of electric current to an exceptional degree, for there is no sales manager who must deal with a greater variety of customers or solve a greater number of knotty sales problems than the man who sells "juice." And by the same token there should be no lack of ability, remuneration or proper facilities for developing, maintaining and extending the market.

There has been marked improvement these last years in central station public policy and sales methods, as we all know, but the gap between the service extended to the public by the modern department store and that of the so-called public service corporation is still both wide and deep, as witness:—

The central station employs lengthy, involved and in some cases, utterly stupid contracts drawn by high-priced corporation lawyers, which supposedly protect the company, but often in reality bar out the most desirable customers. The department store gives a "money-back" guarantee with every purchase and asks absolutely no questions before exchanging goods or refunding money.

The central station makes a blunt demand for a deposit on the meter, without explanation to the man who considers that he is entitled to the usual courtesies extended to a customer. The department store extends credit upon a basis of a simple form to all who are entitled to it.

In the central station, too frequently, there is a beardless stripling who stands behind the counter catechising the well-to-do citizen who applies for service and trying to give the impression that the account is hardly worth while. In the department store, politeness is insisted upon and everybody from the porter at the door to the proprietor in his office makes the customer feel that his patronage is wanted. In the case of a customer who applies for credit, the interrogation of his credit rights is made by a shrewd and tactful credit man who probably is drawing three or four thousand dollars a year.

The central station almost invariably shows lack of consideration for complaints of high bills by a man who "stands pat" with the unexplained statement that "the meter can't lie." The department store investigates every complaint of whatever sort as promptly and as carefully as possible. If goods are not as represented, the customer gets his money or other goods; if there is claim of non-delivery, the same is also true. No complaint is allowed to stand as long as the customer feels that he is wronged

It is the arbitrary, unbusinesslike lack of sales management that is to blame for the central station's business errors—a lack of appreciation of the balance between engineering and business. That is what leads to unjust verdicts, baseless attacks through the press, and loss of public sympathy, confidence and support That is what leads finally to the wrecking of the market that with proper, intelligent sales management could be guided, protected and developed for profits present and prospective.

Throughout the entire staff of many central stations, there is the attitude of loosely-veiled indifference towards the consumer, which the public feels in all its dealings with the company and deeply resents. Because every monopoly is viewed with suspicion, in the interests of sales no effort should be spared by every employee of a lighting company to keep this feature constantly in the background. The threat of the "cut-off-wagon" should be the very last resort in the collecting of disputed bills and the gospel of courtesy should be preached without ceasing.

In other words, from the general manager to the meter reader, lineman and lamp boy there must be a general and unalterable understanding that the fundamental object before all hands is sales; they must appreciate that the prosperity of the company and their own fortunes depend upon the market for current and act accordingly. It makes no difference who is running the company, whether an engineer or a commercial man. He need only understand the broad purposes that underlie his company's existence. The doctor who leads the United States Army need not be a swordsman or a sharpshooter—but he does need to know organization, strategy and tactics. The lawyer who guides the Steel Trust need not know the stock sizes of merchant bars and the technicalities of the open hearth process —but he must know and be able to direct his company into the path of profit. The electrical engineer who manages a central station really doesn't need his engineering skill—but he must be able to find a just balance between the plant and the public.

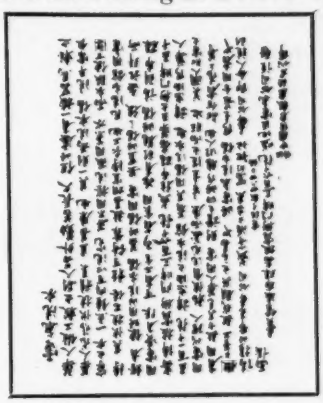
It is a hopeful sign that this neglected business phase of the industry is fast forging to the front and that the work is producing just such men as the problem demands. And after all, it is only the mental attitude, the point of view, that must change. The question to be understood and answered is this: Is the electric light and power company organized to sell all the current its engineers can produce or to manufacture current which the public demands?

Have you seen the N.E.L.A. Commercial Day Program? It's published on page 175.

Translated Advertising

THE Edison Electric Illuminating Co. of Brooklyn has been very successful in introducing the virtues of electric power to small Jewish clothing manufacturers and Chinese laundry men through the medium of circulars translated into their respective languages.

The Chinese folder was printed on yellow stock four pages, 6" x 9", and bears on the front page this Chinese screed in red. On the two inside pages are half-tone reproductions of two photographs, one showing "Tom Jung Hoy and His Electric Laundry" and the other, the washing machine itself with this progressive Celestial starch artist in attendance. On pages 2, 3 and 4 there is also an English translation which is interesting as a clever adap-



tation of the electric power proposition to the simple logic of the Chinaman.

It is as follows:

THE ELECTRIC LAUNDRY

Chinamen work harder, longer, than any other.

But there are machines that can work harder, faster, better than even Chinamen.

And cheaper, too.

One of these is a washing machine.

Does ordinary family wash in an hour.

Gets the clothes clean without tearing them and without use of injurious acid.

Is particularly fitted for laundry work, being so steady, reliable, swift, tireless.

Any laundry that is electric lighted can have this great money making washing machine.

For it uses the electric light current.

Cost of putting it in with electric light will be about $100.

After that it will cost only about one cent per hour.

Draws no wages, eats nothing.

You can see it at our salesroom, 360 Pearl Street, Brooklyn.

Or you can see it doing all the work at Tom Jung Hoy's laundry, 5510 Fifth Avenue, Brooklyn.

Tom Jung Hoy is a bright Chinaman who does not believe in killing himself with hard work when electricity will do it for him cheaper and better than he can do it for himself.

And give him the best light in the world at the same time.

And also increase his business by making his neighbors think well of him.

Americans know that electricity is good. When they see a Chinaman using electricity they say:

"That's a wise Chinaman. He knows what is best. He does good work. I want him to work for me."

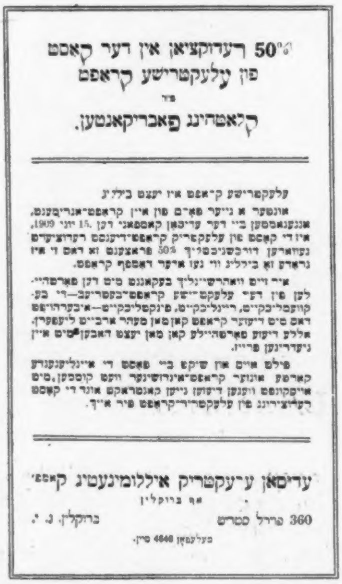
The electric laundry is the best.

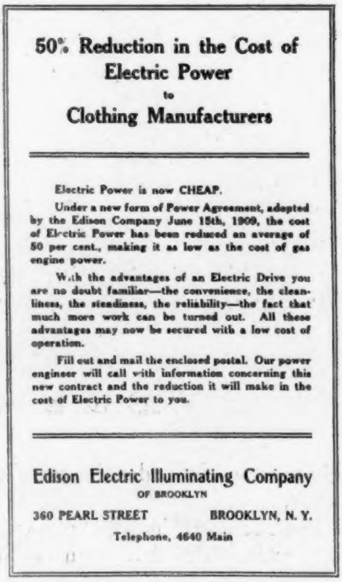
We will make it for you.

Come to us bringing this paper or write a post-card telling where to call on you.

As a result of this circular a Chinaman having one of the largest laundries in Brooklyn came into the company's office a few days after it was sent out, with the folder in his hand and inquiring for washing machines. He examined them closely and purchased one before leaving. It has been installed and has been heard from in several quarters, where other laundrymen are trying to decide to buy.

The Hebrew circular was a two-page affair and is reproduced below in both Hebrew script and English. This has led to considerable business among the many small Jewish tailoring shops in the city.





50% Reduction in the Cost of Electric Power to Clothing Manufacturers

Electric Power is now CHEAP.

Under a new form of Power Agreement, adopted by the Edison Company June 15th, 1909, the cost of Electric Power has been reduced an average of 50 per cent., making it as low as the cost of gas engine power.

With the advantages of an Electric Drive you are no doubt familiar—the convenience, the cleanliness, the steadiness, the reliability—the fact that much more work can be turned out. All these advantages may now be secured with a low cost of operation.

Fill out and mail the enclosed postal. Our power engineer will call with information concerning this new contract and the reduction it will make in the cost of Electric Power to you.

Edison Electric Illuminating Company
OF BROOKLYN
360 PEARL STREET BROOKLYN, N. Y.
Telephone, 4640 Main

Two Sides of a Circular Distributed by Brooklyn Edison Company Among the Hebrew Clothing Manufacturers

A Dollar Idea

D. H. Johnson, District Supt.
The West Penn Electric Co., Charleroi, Pa.

FOLLOWING up the idea of keeping the subject of electricity and its use before the public, we have furnished checks, to barber shops that use the check system for distinguishing "Next," and found the results quite gratifying. The number appears on one side and various "catchy" ads on the reverse.

Customers while waiting for their respective turns usually have a little time for conversation, and they can find no better topic to discuss than "MODERN USES OF ELECTRICITY."

A Year's Experience with Flat Rates

Actual Data on Over 2000 Customers

IN the November issue of SELLING ELECTRICITY was published an article on the sale of current on flat rates in Hartford, Conn. The plan in effect includes the use of 15-watt, 10-candle-power lamps at the rate of one dollar per 10 lamps per month, the maximum demand being fixed by a current limiter. This plan is fully explained in the following advertisement which was used to announce the new rate when it was introduced:—

PART TWO **The Hartford Courant** PAGES 13-18

THE HARTFORD DAILY COURANT, MONDAY, SEPTEMBER 20, 1909.

Electric Lights For Every Home!

COST OF WIRING, CURRENT AND LAMPS IS GRATIFYINGLY LOW.

Special Residential Offer

YEARLY CONTRACTS FOR HOME LIGHTING ARE MADE ON THESE TERMS:

10 Ten-Candle-Power Tungsten Lamps $12 per Year.

Each additional 10-Candle-Power Lamp 72c. per Year.

10 Twenty-Candle-Power Tungsten Lamps $18 per Year.

Each additional 20-Candle-Power Lamp $1.44 per year.

Thirty-Candle-Power Tungsten Lamps at 25c. each per month.

The above prices give the consumer the unlimited use of the entire number of lights in his home.

COST OF LAMPS IS AS FOLLOWS:

First installation of 10, 20 or 30-Candle-Power Tungsten, 20c. each. Renewals, 10c. each.

Frosted Lamps 5c. each extra.

Since our June announcement we have equipped 150 additional homes with the modern Tungsten Electric Light. Hartford people—the masses in particular—are rapidly learning that it is no longer necessary from an economical standpoint to make use of any other illuminant than electricity. The cleanliness, convenience, safety and pure air assured by the use of electricity, make an unanswerable argument in favor of its use in the home. Come to our office and see the wonderful Tungsten lamp—the lamp that has done so much to improve the service and reduce the cost of lighting by electricity.

Six Rooms Wired for $35

WITH FIXTURES INCLUDED.

We will wire houses or apartments located on our present lines with six outlets and fixtures in any six connecting rooms for $35.00 on easy monthly payments if desired. All wiring concealed so far as possible, and the workmanship satisfactory in every respect, to conform with the rules of the Hartford Board of Fire Underwriters. The fixtures which are of a neat design and brush brass finish consist of two (2) 2-light fixtures; 1 3-light fixture; 1 side bracket; 1 pendant and 1 drop. Everything complete ready for use for $35.00.

TELEPHONE OR WRITE TO US

And our representative will call to quote you prices or answer any questions about our proposition.

Do not go through another long winter with unsatisfactory illumination when the very best light in the world can be provided so easily.

266 PEARL ST. The Hartford Electric Light Co. Telephone 3330.

There have recently been made some abstracts from the records of these flat rate customers which are very interesting. There are, in all, about 1800 flat rate residential lighting contracts in force in Hartford, and 3300 residential meters. The average flat rate brings in a monthly income all the year round of $1.80 as against an income of $2.02 monthly from the average residence meter. This makes the total annual figures show $2.64 in favor of the meter customer, but against this must be taken the cost of the meter department in reading, testing, repairing and depreciation, and the cost of bookkeeping, which, according to the management of the Hartford Electric Light Company, amounts to between $5.00 and $6.00 per year. Another

point to bear in mind is that the flat rate customers are charged for their maximum demand, while the meter customers have a fluctuating maximum up to the full number of lights connected.

Another point of variance which operates to the disadvantage of the central station is the fact that the demand is higher on the meters in winter when the station peak is at its maximum. The schedule shows that the summer bills of the meter customers average only $1.48, while the winter bills average $2.57, thus crowding the year's peak with something like 73% increase in the demand of 3300 residence customers. Against this, the all-year-round income from the flat rates appears in a very good light.

The figures for small commercial lighting are no less interesting. There are about 1000 stores on the flat rate against 1800 on meter. The average summer incomes from the meters is $8.59; the winter income $13.18—an average of $10.88 for the entire year. The flat rates, on the other hand, bring in $16.00 monthly with practically no fluctuation between seasons. Deduct the cost of meter reading, maintenance and bookkeeping, and the disparity between the two classes becomes glaring.

The data shows that the total income per meter per year, taking all classes of lighting, is $24.04 against which is the maintenance charge of $6.00, leaving an income of $18.04 net. The annual income from flat rate contracts averages $21.72, less a depreciation charge on the excess indicator of $1.20, leaving an income of $20.52 net. On top of this showing is the estimate by the engineering department of the Hartford Company, that there is a saving of close to 50% in the maximum demand of the one class of customer against the other.

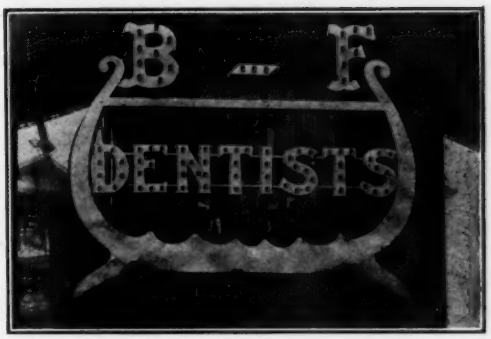
The flat rate has another point which is not to be overlooked—in fact, a point which should make every lighting man investigate it closely—and that is the business-getting advantage of being able to offer a cut-and-dry proposition to small residential customers. Hartford's experience in this has been most satisfactory, the increase in business amounting to 781 new installations in the five months from September 1st, 1909, to February 1st, 1910.

A Dollar Idea

J. F. McGuire, New Business Dept.
The Ottumwa Railway & Light Co., Ottumwa, Iowa

A NOVEL scheme for advertising the use of electric current is to have an electric air purifier installed in the company's public waiting room or office and advertise it. Put up a few signs calling the attention of the public to the fact that the air in the room is absolutely *pure*, with an endorsement by the local Board of Health. There is a wide field for air purifiers and this is a very good way of introducing them to the public.

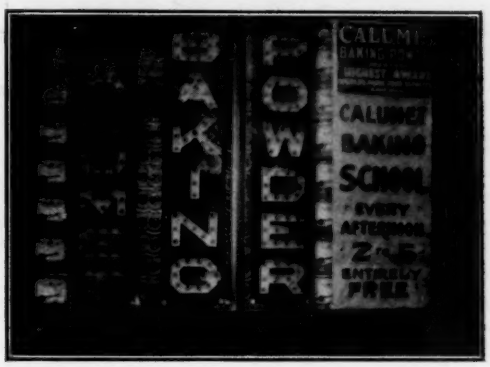
Two Denver Signs



MR. G. E. WILLIAMSON, the Sign Expert for the Denver Gas & Electric Co., has recently placed two novel electric advertising installations.

The Calumet Baking Powder sign operates on a flasher and presents a very attractive advertising feature in an otherwise dark store window. The idea may be applied to advantage where an unprogressive sign ordinance prohibits signs extending over the sidewalk.

The Dentists sign is a novel creation of Mr. Williamson's which has a new musical feature. The sign itself measures 11′ long x 7′ high and is covered with gold leaf, except the strings of the lyre which are silver bronze. The word "Dentists" flashes on letter by letter, and as each letter lights up, a musical note is produced by means of wooden hammers arranged to strike upon orchestra bells. These are toned to give the complete musical scale with each complete flashing of the word. The mechanism consists of a Reynolds-Dull flasher with special lugs attached to the wheels, which pull down the hammers at the proper time as the flasher revolves.



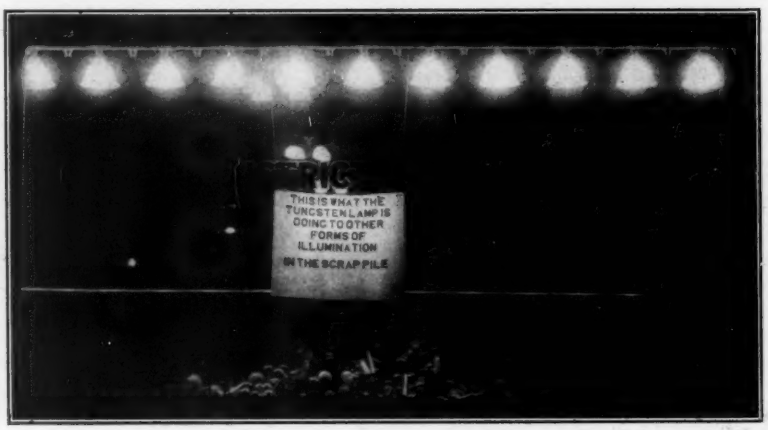
This very ingenious and attractive display has caused a great deal of comment in Denver and is one more step in the development of electric advertising. The *Denver Post* published a descriptive article the morning after the sign was first lighted with the heading—"Electric Signs Sing in Denver."

Reserve your hotel accommodations now for the N.E.L.A. Convention. There will be 3000 people looking for rooms the opening day.

A Dollar Idea

Wm. P. Guinan, Solicitor
The Empire District Electric Co., Joplin, Mo.

THE members of the New Business Department of this company are requested to assist in furnishing ideas and suggestions pertaining to our window display. Watching some workmen one day removing an old system of gas lighting which I had displaced with 100-watt tungsten lamps suggested this novel trim.



We piled in a heap in the center of the window a broken up assortment of different systems of illumination which the tungsten lamp is putting out of commission and suspended over this, a card reading:—

"This Is What The Tungsten Lamp Is Doing
To Other Forms of Illumination."
"In The Scrap Pile."

A row of 100-watt tungstens with focusing reflectors provided the illumination. This display resulted in a large number of inquiries concerning the tungsten lamp.

Besides the regular program at St. Louis there will be addresses on Commercial Day by the biggest men in the industry.

Lighting London's Lords

By Glenn Marston

IF you ever go to London be sure to take the "teube" to Baker street and forgetting Sherlock Holmes for the moment, search for that newer and greater light of St. Marylebone, A. Hugh Seabrook. You will find him at 20 York Place, the only difficulty being to discover just where Baker street ends and York Place begins.

The central station at St. Marylebone is municipally owned and is supposed to be municipally operated. It is not, unless Seabrook can paraphrase "Louis the Quince," and say "La ville, c'est moi!" All evidence, such as council minutes, manager's reports, etc., to the contrary, Seabrook runs the plant. He is the grand panjandum, the great "I am" —and doesn't show it. He neither looks nor acts the part—perhaps because he's English.

Seabrook is said to be the possessor of the original seven league boots. Be that as it may, in one prodigious bound he leaped from the squalor and grime and never-stopping wheels of London's East End—though they call it West Ham—to the most aristocratic of West End boroughs, where homes of Lord This and Sir That cover as much ground as the biggest factories in West Ham, and the only whirring wheels are those of the aristocratic motor car.

Most British managers are content to generate current—Seabrook is not. He generates new business; and it is his ability to make people *need* — not *want*, mind — electricity, which is responsible for his reputation and his desertion of plebeian West Ham for the softer, yet harder, reaches of the parish of Mary-the-Good.

Seabrook's first principle is not that of creating a desire for something new or better. He goes beyond that. When he sets out to get a new customer he shows that the customer *must have* electricity—and the same success attends his efforts in the factories of West Ham, the docks of Salford, and the mansions of Marylebone.

When I was in London, Seabrook had only started on his work in St. Marylebone, but the results were already beginning to show. The leading technical papers, both American and British, are subscribed for on behalf of every canvasser, and when anything particularly applicable to the local station appears it is reprinted and distributed among all the employees of the electric department. It is Mr. Seabrook's intention to keep the number of canvassers as high as eighteen or twenty, serving a population of 153,000.

It is his idea to assimilate the ideas of everybody else, and, in putting them into practice, to do it just a little better than anybody else. He considers every householder as a possible consumer, and his campaigning is of the nature of a house-to-house canvass. The Borough is

divided into districts, to each of which one canvasser is assigned with a reserve force of specialists who attend to such matters as refrigeration, electro-medical apparatus, etc., throughout the borough.

Seabrook believes in the centralization of every detail of the customer's connection with electricity. Therefore he carries on a very active selling campaign with appliances of all sorts, and does not trust the outside contractor with any part of his work. The contractor, in Seabrook's mind, is an unnecessary and unmitigated evil. All of the contracting, wiring and supply business done by the Borough is done at a profit, in some cases very high, the money thus earned being used in advertising. Advertisements are always carried in the local papers, and billboards are widely used, though none are illuminated.

The first move made by Seabrook when he went to St. Marylebone was a radical revision of rates. The new rates are based on the maximum demand system, and have been christened the "telephone system," because they are analogous to the rate system employed by the telephone company in Great Britain. The telephone company charges a fixed price of about $30.00 per year for an instrument, with a charge of 2 cents per call.

If a consumer's maximum demand is only one kilowatt he is charged a fixed rate of $70.00 per year plus a meter rate of 2 cents per kw. The fixed rate per kw. of maximum demand decreases as the demand increases, the price per kw. for a 200-kw. installation being only $22.50, plus the meter rate of 2 cents, which is constant regardless of the maximum demand.

The fixed charge is payable annually in advance, and therefore gives the station a huge sum for working capital (on which there is no interest charge), which makes our little meter deposits pale into nothingness. This system, it is estimated, will give the station a fund of at least $150,000, much of which will be used to finance sales of appliances on the installment basis, or, as it is called there, the "hire-purchase" plan.

In order to care for the less prosperous consumer (who is a negligible quantity in St. Marylebone), Seabrook says: "If it is inconvenient for a consumer to pay annually in advance, or to enter into a long period contract, the 'kw. charge' will be accordingly increased, taking into consideration the directions in which the consumer cannot meet our conditions."

A special rate is made for cooking and heating, the price ranging from $5.00 for demand under 1 kw. to $2.10 per kw. for 5 kw. of maximum demand, the same meter charge, 2 cents, holding as in all cases. This low charge for cooking and heating is good only when all the lighting on the premises is done with the central station's current, and the maximum demand of the heating apparatus is figured at its combined rated capacity, so that there is no necessity of duplicate services.

A unique feature of the practical application of the maximum demand system is a ruling by Seabrook that

customers may exceed their ordinary maximum demand once a month. On giving 24 hours notice to the station a man will be sent to cut out the demand meter for a single night, but this privilege is permitted only 12 times a year. In a district where large entertainments are not unusual, and where a consumer will occasionally—but only occasionally—want every light in his house going it is obviously unfair to charge him for a whole year's demand to cover these infrequent drafts on the lighting system. Hence the ruling, which is one of the most efficient promoters of good will inaugurated by the new management.

While all the business is of a residential nature, it is not of the sort with which the average American station has to contend. Practically the smallest bills for houses come to $50.00 per year, while flats are expected to bring in no less than $25.00 per year.

The central station does all wiring, contracting, etc. If a consumer wants to hire his installation, the rental is added to the maximum demand charge, and if the installation is to be maintained by the station a still further charge is added, the invariable rule being "pay in advance."

For a day load St. Marylebone promises as little as any community could possibly promise. There are hardly a dozen industrial institutions in the borough. Seabrook expects to make a big business, however, out of refrigerating plants in the large houses. He is also working toward securing electric motor installations in grocer's stores and markets. As there are a number of hospitals, both public and private, on the lines of the station, a specialist has been employed to look after the installation of electro-medical apparatus.

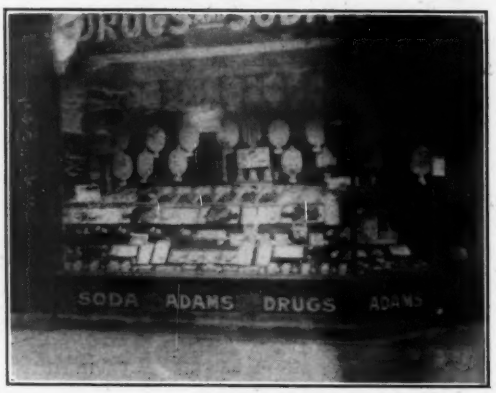
The pay of canvassers is good for England, though it might not seem so to Americans. All canvassers work on salary and commission, and a moderately good canvasser gets, after two years' work, $1,000 a year or more. All canvassers in the employ of the station are required to take a course in salesmanship, either by correspondence or at night school. Weekly meetings are held at which representatives of large manufacturers are asked to speak on various phases of salesmanship in the electrical field.

The greatest difficulty against which Seabrook has to contend is the hostility of the contractors. They do not fight their case on a fair and square basis, but try to take advantage of the general prejudice against municipal trading now prevalent in England. The real problem is one of whether the central station should do contracting or not, but the contractors ask, "Shall we have municipal contractors or not?" Incidentally, Seabrook, the best municipal manager in England, does not believe in municipal ownership—and the way he runs his plant shows why. His council is convinced that he knows more about the business than any of its members do.

A Dollar Idea

C. P. Gallagher, New Business Manager
Auburn Light, Heat & Power Co., Auburn, N. Y.

TO give a further stimulus to electric advertising, we recently interviewed all the merchants on the principal streets in the business portion of our city whose store fronts are built with a wood base, or panel board directly underneath the plate glass show window. We explained to them how they could remove the wood panel, insert an ordinary window glass of dimensions that vary from 8″ x 24″ up to 12″ x 36″ and have these painted with some suitable ad, or the firm name, installing a 16-cp. lamp directly back of each panel. This opens up another avenue for additional revenue with practically no expense for connection, and the merchant is more than pleased to get this valuable advertising space at such a nominal cost. The accompanying photograph shows the daylight effect and the signs show up very well at night.



A Dollar Idea

J. C. Mow, Jr.,
Western Electric Co., Dallas, Texas

ONE of the most prominent central stations in Texas has a clever method of advertising sewing machine motors. They have a sewing machine in their show window with a motor connected up and running, and an endless piece of cloth, about four inches wide and eight feet long, runs through the machine with these words stenciled on it: ELECTRIC SEWING MACHINE MOTOR. COST TO RUN IS A HALF CENT AN HOUR. FITS ANY MACHINE.

These letters are about an inch high and run vertically up the length of the cloth. This moving, self-spelling advertisement makes a good display, and attracts considerable attention. It has been the direct means of placing a number of sewing machine motors.

The Electric Vehicle Problem

It Rests With the Central Station to Hasten Its Popularity

By F. J. Newman, Member A. I. E. E.

IN ALL probability there will be about 6,000 electric pleasure automobiles produced in this country in the present year. Figuring conservatively on a basis of a three-cent rate, these vehicles can be expected to effect a total revenue to central stations aggregating in the neighborhood of $400,000.00. In addition to this there are somewhere around 15,000 electric machines already in service, which should mean an annual income to the central stations of this country of over $1,500,000.00.

Revenue from vehicle charging is becoming a factor in the central station sales problem, and should not be disregarded. The lighting company can well afford to make a special rate that will attract and encourage this class of business, for the charging of electric machines in most cases takes place after ten o'clock at night, when, of course, the cost of manufacturing the power is at its lowest point and the effect on the station load factor most welcome.

As a manufacturer, I have in several cases acted as intermediary between central station and garage, and arranged for special rates for charging service that has worked out most satisfactorily. These garages have an alternating current supply, and are equipped with both mercury arc rectifiers and motor generator sets. The rectifiers are operated only throughout the day and an all day rate applies. The motor-generator outfit is covered by a special off-peak contract and does not start up before 10 o'clock at night.

The matter of time switching was discussed in all its phases, but we concluded that there was no necessity for this precaution, inasmuch as the patrol switch on the outside of the building will be enough protection to the central station in case the garage should not abide by the contract. There need be little fear of this, however, for no garage can afford to violate its agreement and risk an open break with the power house. Loss of power would mean the ruination of the business.

The central station should thoroughly understand the science of battery charging and its application to the practical maintenance of the electric automobile. The popularity of electrics in a city can be seriously jeopardized by unskilful and inefficient battery charging, and it is to their interests to instruct the garage men and insure the best possible service to owners of these vehicles.

We find the greatest trouble with storage batteries today to be due to under charging. Years ago when garages were not doing as large a business as they enjoy today and were not open all night, there was

considerable trouble due to overcharging, because no attendant was on duty in the garage all night and the cars were left on charge for indefinite periods. At the present time, however, either because of a desire to save on the power bills or on account of a lack of switchboard capacity, the most frequent trouble is that not enough power is put into the battery and as a result the negative plates are sulphated. A sulphated plate means loss in efficiency and at the same time a greater loss in mileage.

Many garages try to anticipate the next day's mileage and charge accordingly, beginning their anticipation on practically an empty battery and thereby causing lack of efficiency through sulphating. If batteries were charged full each time it would cost them no more, because by keeping the efficiency of the battery up to a high mark, the loss in charging is decreased, while the ampere hours output or miles run would probably be no more.

Manufacturers of electric vehicles and batteries use their utmost endeavor to impress these facts on the minds of all purchasers, and all garage men, but it seems to be impossible to control the situation all over the country; and obviously they can not apply the same personal supervision that the central station can provide. There should be somebody in each locality who is sufficiently familiar with the storage battery to post the garage man and owner, and insure the proper performance of the vehicles. This would materially help the sale of electric automobiles and, of course, the sale of vehicles means increasing sale of electric power.

The battery when it first goes out gives good mileage, but as the plates become sulphated due to lack of proper charging, the mileage falls off very materially and instead of condemning that particular car and that particular battery, the user condemns all electrics and all batteries. A little intelligent care on the other hand would maintain the mileage of the car and it would be a constant self-advertiser.

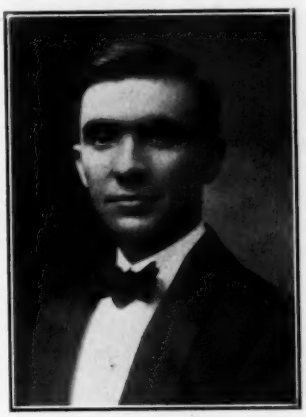
The future of the electric automobile looks to the central station, as well as the manufacturer, and the interests of both are in common. The universal popularity of electric pleasure vehicles will be hastened or retarded, just as the garage man and owner is educated to the proper care of the battery, or as at present left largely to work out the problem in his own way.

The National Electric Light Association has passed the 5000-member mark. That means opportunity for YOU at St. Louis.

The Portable Storage Battery and Its Field

By Julian N. Walton, Storage Battery and Electric Vehicle Expert,
Edison Electric Illuminating Company, Brooklyn, N. Y.

THE field for the small electric storage battery, better known, perhaps, as the "Portable Battery," is so wide and embraces so many applications, that it is worthy of a more serious recognition from central stations, and deserves a corresponding share of the advertising and sales appropriations which are devoted to the pushing of current consuming devices. Probably the fact that little has been said of these applications of the small battery is largely because it is not permanently connected to the companies' meter; but as it must invariably return to some meter, after its periods of work, to have its energy replenished, it is to all effects a constant consumer.



Julian N. Walton

Perhaps the greatest use found for the small battery to-day is the ignition of gas automobile engines, where it is employed to produce the spark that ignites the charge of gas in the cylinders. To form an idea of the enormous number of these small batteries in use, we only have to consider that there are comparatively few of the gasoline cars which do not carry one of these sets, and even though it be the tendency of purchasers to specify high powered cars equipped with complex and expensive magneto systems, these same cars are sooner or later equipped for dual ignition and a storage battery installed as an auxiliary.

When the storage battery is employed to supply power to the induction coil, the desirable characteristic of the spark, known as the fat spark, gives it preference over the dry battery, to say nothing of the added virtues of its reliability, sustained discharges and decreased cost of maintenance. It also serves as insurance against magneto break-downs and kindred troubles. The storage battery has the same advantages for gasoline engine ignition in motor boats and stationary engines as in automobiles, for it is reliable and gives a hotter spark, which means more power and speed. The battery gives many other convenient advantages, such as a 6-cp lamp for examining the engine, looking into lockers, etc., which may be attached to the battery by a few feet of flexible lamp cord.

The advent of the small low voltage tungsten lamp has made electricity a serious competitor to carbide gas and oil for automobile and carriage lighting, and the small battery

is rapidly replacing the troublesome gas generator and gas tank. The following are some of the advantages the electric lamp has over either of them:

Brightness—These tungsten bulbs give far more light than the oil burner and as much light as the gas flame.

Cleanliness—The lamps always remain bright and require no polishing.

Reliability — There is no fear of lamps blowing out and no danger of fire.

Convenience—Lamps can be lighted at any time by simply throwing a switch and no matches are required. For enclosed cars, a dome light is provided as well as a lamp on flexible cord, for inspecting motor or fuel tank.

Cheapness—They are far cheaper than gas to install. A gas tank costs $22.50 and lights two head lights 35 hours with further expense of $1.50 to $2.50 for recharge. A battery costs from $10.00 to $15.00, and lights two head lights, two side lights and the tail lamp for from 30 to 40 hours. It costs 25c. to 50c. to recharge.

In addition to this there are numerous other uses to which this small battery is being put, such as supplying power for phonographs, bells, burglar alarms, telegraph, telephones, sewing machines, vibrators, surgical instruments, dental motors and similar applications.

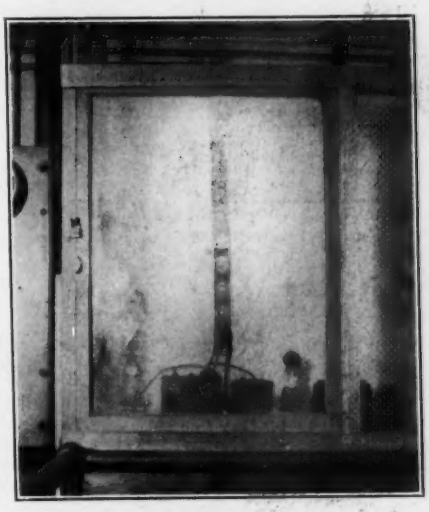
The charging of these small batteries is extremely profitable as their current consuming qualities are very akin to the "big brother," the vehicle battery. In fact, these small batteries are usually of lower ampere hour capacity and a less number of cells than a vehicle battery, due to the complete discharge, occasioned by the low rate at which they have to deliver their energy. This produces such complete sulphation that they require more energy than the vehicle battery to recharge.

The illustrations on page 163 show the equipment in two Brooklyn garages used for charging these small batteries; one the bench on which batteries stand while being charged, and the other, the charging outlets. The circuit is provided in this instance from a suitable rheostat to give five amperes with a range of from 3 to 44 cells in series. As this garage charges an average of 10 batteries per day for which the revenue is 50c. apiece or $5.00 for the 10, it is seen at a glance that the business is highly profitable to the garage owner. These outlets in public garages are seldom idle, as there are generally batteries coming in to be

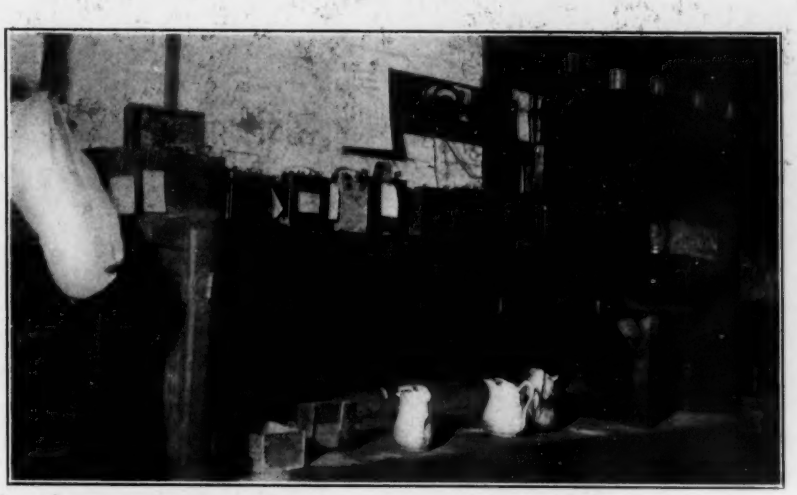
charged each day, and since any number of cells from 3 to 44 can be charged for the same current consumption, the batteries not actually required for service are usually left in circuit to receive an overcharge. As a result these simple little outlets often consume from 200 to 300 kwh. per month.

There are also in Brooklyn as well as other cities having direct current supply, many private stables and residences equipped with these outlets. They are usually of 500 watts capacity and consume from 20 to 50 kwh. per month, depending on the number of batteries which the owner has to charge each month. Owing to the extreme simplicity of the apparatus required (it being simply a bank of 10 50-watt lamps) it is seldom difficult to persuade the customer to provide this, as naturally he would rather do so than be bothered with taking his batteries to a public garage to be recharged. These outlets are placed on the lighting circuits, for, owing to the small amperage required, there can be no objection.

On the basis of these figures, the central station cannot deny that this is a desirable class of business, to the development of which some little effort should be put forth inasmuch as it requires no additional invest-



Battery Charging Outlet in Brooklyn Garage



Bench in Brooklyn Garage Where Portable Batteries Are Charged

ment on the part of the company. Moreover, if the current salesman will acquaint himself with these facts and go after this business, he will find a great many instances where current may be sold for charging batteries to be used at a point away from the companies' mains and meters.

The battery itself, with a little care, will do its work well, and with a few simple instructions to the owner, and a duplicate battery, a constant supply of electricity is assured.

A Dollar Idea

L. A. Pettit, Jr., General Manager
The Middletown Lighting Co., Middletown, Ohio

WE made a rather notable installation of tungsten lamps recently in one of the clothing stores of our city. As an advertising scheme, we had photographs taken of the illuminated interior before and after the tungstens were installed, and post-cards were

made from the photos with wording as shown in the accompanying cut. These were mailed to the principal merchants of the city just as the gas company was beginning a new business campaign. To our knowledge they have installed just four gas arcs in over thirty days and we are confident that their lack of greater success is due to this little card.

The New England N. E. L. A. Convention

THE initial convention of the New England Section of the National Electric Light Association was held at the American House in Boston on March 16 and 17, under the guidance of the following executive:

President, S. Fred Smith, Salem Electric Lighting Co., Salem, Mass.

Vice-President, J. E. Davidson, Consolidated Lighting Co., Montpelier, Vt.

Secretary and Treasurer, C. H. Hodskinson, Edison Electric Illuminating Co., Boston, Mass.

Assistant Secretary, L. D. Gibbs, Edison Electric Illuminating Co., Boston, Mass.

That the opening attendance numbered 200 members and guests and the total registration stood at 455 speaks well for the success of the meeting; also the membership was increased by more than 100 names during the convention, and now reaches a total of nearly 700. A notable feature of this convention which perhaps contributed as much to its success as any one thing was the small number of papers presented and the large amount of discussion which resulted.

Sessions were held on Wednesday morning, and on Thursday morning, afternoon and evening, and the following papers were presented:

"Attitude of Central Stations toward Electric Automobiles," by J. T. Hutchings, General Manager of the Rochester Railway & Light Company, Rochester, N. Y.

"Insurance from the Engineer's Standpoint," by W. H. Blood, Jr., of the Stone & Webster Corporation, Boston, Mass.

"Loading up Existing Mains," by E. R. Davenport of the Narragansett Electric Lighting Company, Providence, R. I.

"Price of Electricity," by R. S. Hale of the Boston Edison Company, Boston, Mass.

James E. Davidson

Elected President of the New England Section, National Electric Light Association, at the Boston Convention

Mr. Hale's paper was read by Mr. L. D. Gibbs, of the Boston Edison Co., and followed a banquet attended by nearly 250 members

Mr. Blood, in his paper, dwelt on the necessity of adequate insurance as a protection against the interruption of service and its attendant evils, and advocated the insuring of central station property with regular insurance companies instead of the central station carrying its own insurance fund.

An abstract of Mr. Hale's paper appears in this issue. Abstracts of Mr. Hutchings's and Mr. Davenport's papers will be published next month.

In each case the reading of the paper was followed by keen and enthusiastic discussion which brought out a large amount of most interesting and valuable information

President Frank W. Frueauff and Executive Secretary T. Commerford Martin of the National Electric Light Association were in attendance and addressed the convention, reporting 4800 members of the national body. Among the social features were a theatre party and a banquet.

The following officers were elected for the coming year:

President, Mr. James E. Davidson, Montpelier, Vt.

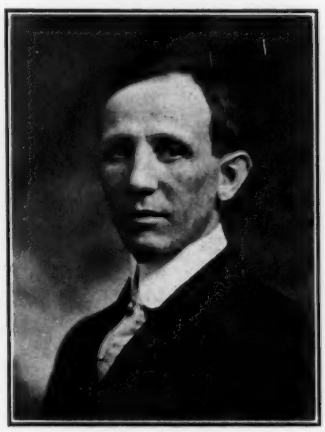
Vice-President Mr. Alex. J. Campbell, New London, Conn.

Secretary and Treasurer, L. D. Gibbs, Boston, Mass.

Executive Committee, J. A. Fleet, Portland, Me.; J. S. Whitaker, Portsmouth, N. H.; H. T. Sands, Malden, Mass.; R. W. Rollins, Hartford, Conn.; F. H. Parker, Burlington, Vt.; A. B. Lisle, Providence, R. I.

The New England Section has opened a permanent headquarters with a permanent assistant secretary in charge, located at 39 Boylston Street, Boston.

Greatly to the surprise of his friends, President Davidson, since his election, has been forced to resign from the New England Section as he will remove to the northwest on May 1st. Mr. Davidson has also resigned as President and General Manager of the Consolidated Lighting Company and the Vermont Power and Lighting Co. of Montpelier, Vt., and as President of the Vermont Electrical Association, and accepts a position with the American Light & Power Co. of New York City, to supervise the operation of their numerous electric light and power properties in Oregon, Washington and other Pacific states.



Alex. J. Campbell

Elected President of the New England Section, N.E.L.A., to succeed Mr. Davidson, resigned

At a meeting of the Executive Committee of the New England Section held on March 31st, the following elections were made to fill the vacancies caused by Mr. Davidson's resignation:

President, Alex. J. Campbell, New London Gas & Electric Co., New London, Conn.

Vice-President, H. T. Sands, Malden Electric Co., Malden, Mass.

Member of Executive Committee for Massachusetts: C. H. Hodskinson, Edison Elec. Illg. Co. of Boston.

The Price of Electricity

By R. S. Hale, General Superintendent
Sales Department, Boston Edison Company

Abstract of Paper Read before the Convention of the New England Section of the National Electric Light Association, Boston, Mass., March 16 and 17, 1910

THE total cost of supplying service is, of course, the same as the gross income. When I say that the total cost corresponds to the gross income, I am assuming that a fair dividend on the stock is really a part of the cost. Of course, if there is a deficit after paying a fair dividend, or if there is a larger surplus than is necessary for a proper reserve, then the gross income is less or more than the total cost, but in most well run companies, the gross income and the total costs are substantially the same.

R. S. Hale

The question of the total cost is simple. It is merely a question of adding together the costs of the different departments and of the various taxes, fixed charges, reasonable dividends, etc.

The question of the total of the prices is, likewise, simple, because the total of the prices must be the total of the costs.

The really difficult question is the proportioning the part of the total costs to be borne by each different customer, or class of customers.

Now, how is the $2,700,000 which it cost the Boston Edison Company in 1904, or the $4,100,000 which it cost it in 1909, to be divided up among its customers.

If we divide the total income by the total number of customers we find that the average income was about $200 per customer in 1904, or $160 in 1909.

If we divide the gross income by the total number of lamps or their equivalent, we find the cost was about $3 per lamp in 1904, or $2.25 in 1909.

If we divide the gross income by the total number of kilowatt hours, we find that the average cost was about 10 cents per kilowatt hour in 1904, or about 6½ cents per kilowatt hour in 1909.

While these are the average costs or average prices per customer, per lamp, or per kilowatt hour, it is perfectly clear that we cannot depend solely on averages in any particular case any more than we, ourselves, would be satisfied to have the total pay-rolls of our various companies divided by the total number of employees so that each employee should be paid exactly the same salary. The average cost per customer of the Boston Edison Company is between $150 and $200 each, but some customers cost very much more and some very much less. The average cost per lamp is be-

tween $2 and $3, but some lamps cost much more and some much less. The average cost per kilowatt hour is from 6 cents to 10 cents, but some kilowatt hours cost us 15 cents, 20 cents, 30 cents, and 50 cents each, and some cost hardly more than one-half cent each. It is obvious that we cannot make the same charge either per customer, or per lamp, or per kilowatt hour, and before considering the amount, we may ask whether there is any theory that determines on which items the charge shall be based.

The four most important principles that are used in making prices are:

First:—That the customer who uses the investment a long time is much cheaper to supply, and is entitled to a better rate than the customer who uses the investment only a short time.

Second:—That a large customer who does not require any large expenditure for distribution in proportion to the amount of service rendered, can be supplied at a very much lower rate than small customers who require a very large distribution expense.

Third:—The third is in one sense an extension of the first principle, in that a customer who uses the service for power, even if the individual customer uses the investment a short time, produces the same result on the station and, to a certain extent, on the distribution system, as though he used the investment a long time, and can, therefore, be supplied more cheaply than if the current is used for light.

Fourth:—That there are a large number of expenses which cannot be classified and ascribed to any particular customer, or class of business, but must be paid somehow. By proper distribution of these unclassified expenses, we are enabled to smooth out our prices and rates and make them far more simple than we would otherwise have to do, and also make them more uniform as between individual customers.

While our rates may seem on the face of them complex, yet the only reason that they seem complex is because they are so simple that we can make at least an attempt to show the principles on which they are worked out.

Our system is not as complicated as the United States Postal System, if one should attempt to explain the reasons why first-class rates should be exactly thirty-two times as much as second-class, etc.

It is not as complicated as the Boston water rates.

It is not as complicated as telephone rates.

It is not as complicated as railroad rates and classification.

Before anyone calls Boston Edison prices for electricity complicated, I will ask him to name an article that is sold, both wholesale and and retail in qualities whose costs vary by several hundred per cent, an article that the customer may take delivery of at any time, and in any amount he wishes, an article whose price is made so that the price will stand for several years without increase, and whose price is

not far more complicated than Boston Edison price for electricity.

Before you call Boston prices complicated, I would ask any other electric company to give *all* its rates. Our rates are six in number: viz., short term and long term, power and street lighting, and two more rates for long-term agreements. They are printed on six small pages and cover business from $1 to $5,000 per month. No special rates are being made, or will be made. Other companies have published rates far longer and more complicated than ours, and none as short or as simple except companies that have not published all their rates. A rate book is complete if it gives all the rates that will be used for new business and for existing business when existing contracts expire.

We have simplified our prices a good deal in the last few years, and in some directions we hope to simplify them more later, but if we made our prices too simple they would be unfair, just as a hotel's prices would be unfair if it charged the same price for a boiled egg and a porterhouse steak. A simple article like copper can have a simple price, but a complicated service like a railroad or hotel or electric service must have some complications in order that the price may be as fair.

A Dollar Idea

William M. Lewis, Manager
Rockville Gas & Elec. Co., Rockville, Conn.

A LECTURE to be successful must feature some man of general reputation as the lecturer, or at least the subject must be one that strikes the popular fancy, in order to insure a full house. Therefore, when we decided to give a lecture in Rockville, on the subject, "How to Obtain Better Results in Illumination without Additional Cost," we realized it would probably not prove a strong attraction and the question arose—How can we bring the people out?

We finally decided to combine the lecture with a musicale and enlisted the co-operation of local talent both vocal and instrumental. We had the hall filled and a peculiar thing in connection with the entire affair was that we had more people in the hall when Mr. H. C. Jones of the Holophane Company gave his talk than we had when the musicale began.

Illumination Intensities and Qualities for Department Store Lighting

By Albert Jackson Marshall

IT has been a theory of mine for some time that to properly light a department store, provision should be made to adapt the intensities and qualities of light in the various departments to the class of goods displayed. This, of course, should be effected, in so far as possible, with a uniform system of illuminants and accessories, both on account of the more aesthetic appearance and for greater economy and facility of maintenance.

Albert Jackson Marshall

Heretofore department stores have generally been lighted by some one kind of illuminant operating on the same voltage throughout the store, and with practically no reference to the different characters of the goods to be shown. Without any considerable knowledge of the subject of lighting a department store, however, it is easy to understand that a light which would show off carpets and rugs to the best advantage, would not do justice to cut glass and diamonds, because, generally speaking, it is desirable to display carpets and rugs under illuminants rich in yellow and red rays, while with cut glass and diamonds an abundance of blue rays produces a better "atmosphere."

I have recently been engaged in designing the illumination for a large department store and from my figures and experiments I am led to feel that very satisfactory lighting effects of different intensities and qualities may be produced by the Mazda lamp operating on different voltages. For instance, in the cut glass department we could use a Mazda lamp of about 115 volts on a 120-volt circuit, causing the lamp to burn at a higher temperature and thereby producing a closer approach to daylight conditions than would be obtained with a lamp burning on normal voltage. In the carpet and rug department a lamp rated at about 125 volts and operating on the same line voltage of 120, would produce a quality of light richer in the reds and yellows than if the lamp was operating on normal voltage. In such departments as restaurant, furniture, hardware and the like, lamps operating on line voltage could be installed, while burning Mazda lamps below line would be advantageous, not only in cut glass departments, but likewise where delicate silks and cloths were displayed.

The lamp manufacturers have lately issued data showing the per-

formance of different sizes of Mazda lamps when burned at other than their rated voltage. The gist of this is shown in the accompanying table and it will be seen that though with the bottom voltage the efficiency of the lamp is impaired, yet through the longer life enjoyed, and by reason of other departments operating at top voltage, the general average will prevail.

This is no more than a suggestion, for I have not yet completed my investigations, as the many applications of light under varied conditions demand a large amount of study. I believe, however, that the idea will be not without interest to those men who are designing department store installations and striving for higher illumination standards.

TUNGSTEN REGULAR MULTIPLE LAMPS FOR 100-125 VOLTS

Designation (Total Watts)	At Top Volt.			Middle Volt.			Bottom Volt.		
	Watts per Candle	Nominal Mean Horizontal Candle-power	Hours Useful and Total Life	Watts per Candle	Nominal Mean Horizontal Candle-power	Hours Useful and Total Life	Watts per Candle	Nominal Mean Horizontal Candle-power	Hours Useful and Total Life
25 watt	1.33	18.8	1000	1.39	17.4	1300	1.45	16.1	1700
40 watt	1.25	32.0	1000	1.30	29.9	1300	1.35	28.0	1700
60 watt	1.20	50.0	1000	1.25	46.5	1300	1.30	43.5	1700
100 watt	1.15	87.0	800	1.20	80.8	1000	1.25	75.2	1300
150 watt	1.15	130.3	800	1.20	121.1	1000	1.25	112.8	1300
250 watt	1.10	227.3	800	1.15	210.0	1000	1.20	195.0	1300

Electrical Progress Department

The G-M Portable Lamp

This new portable reading lamp is designed to meet the requirements of scientific illumination. The perfection of the Mazda lamp has so greatly increased the intrinsic brilliancy of the light source that bare lamps in a portable of this type are offensively prominent. In the G-M lamp the bulbs are shielded by a diffusing and redirecting medium which gives a soft, even illumination without excessive absorption of the light. Furthermore the relative positions of the diffusing hemisphere and the art dome are such that a wide reading zone of uninterrupted illumination is obtained with its maximum intensity fixed by the height of the base of column in the most desirable direction for reading near an ordinary library table.

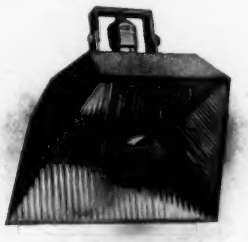
A regulating switch in the base of the G-M lamp permits the light to be diminished or raised at will, thereby obtaining the most desirable intensities by increasing the economy of operation. When turned low a soft toned illumination is obtained, which as modified by the art dome adapts itself to the

most elegant environment—when the switch is moved to the other position the superior white light of the Mazda lamp is available for reading.

The equipment is shown in the above illustration and includes flexible cord and plug for installing. The artistic design of the base and dome and the many "talking points" of the lamps should make it a ready seller for central station show rooms. It is manufactured by the Electric Motor and Equipment Co., Newark, N. J.

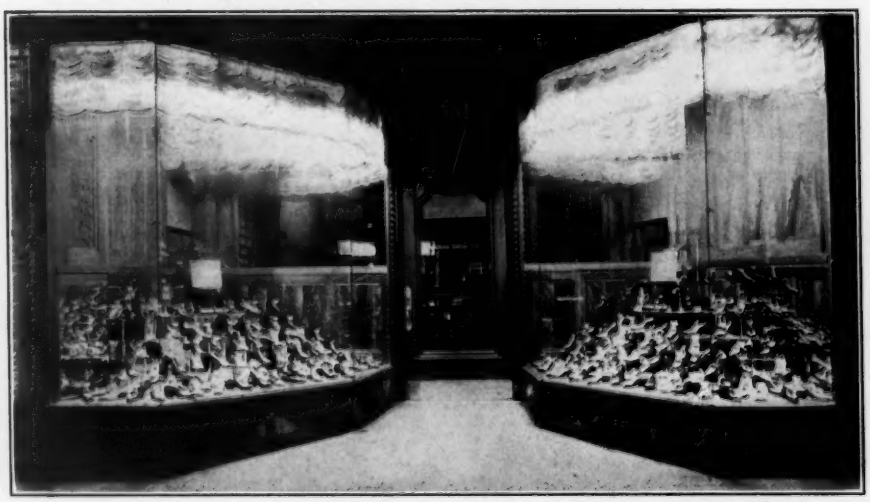
A Boston Show Window

About three years ago, the Hanan Shoe Company which operates stores in several of the principal American cities undertook to improve its window lighting. The first installation was in their Cleveland store and the result was so eminently satisfactory that they began to refer to these amongst their business associates as the "best lighted shoe store windows in the United States." Since then they have been gradually changing over their windows in



other of their stores to this same system.

Their show-windows on Washington Street, Boston, presented some unusual difficulties in that they are very irregular in outline, as may be noted from the diagram; the ceilings are high, and the pannelling on ceilings and walls and the display fixtures are the dark, dull finish mahogany. The problem therefore was to get an even, gen-



Windows Lighted by Wheeler Reflectors

eral illumination of sufficient brilliancy to display to advantage both black and tan-color shoes.

The accompanying illustration shows how this has been accomplished with six No. 65 Wheeler Mazda adjustable window reflectors and six 100-w. Mazda lamps in each window, and how thoroughly and evenly the display and even the rear parts of the window are illuminated. The floor area is 54½ and 58 square feet which will give a wattage

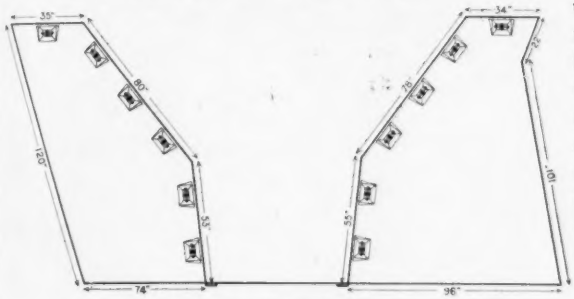


Diagram of Hanan Windows

consumption of 11 and 10.4 watts per square foot of floor space, respectively, and it can be readily appreciated that this installation stands out prominently along this well lighted thoroughfare.

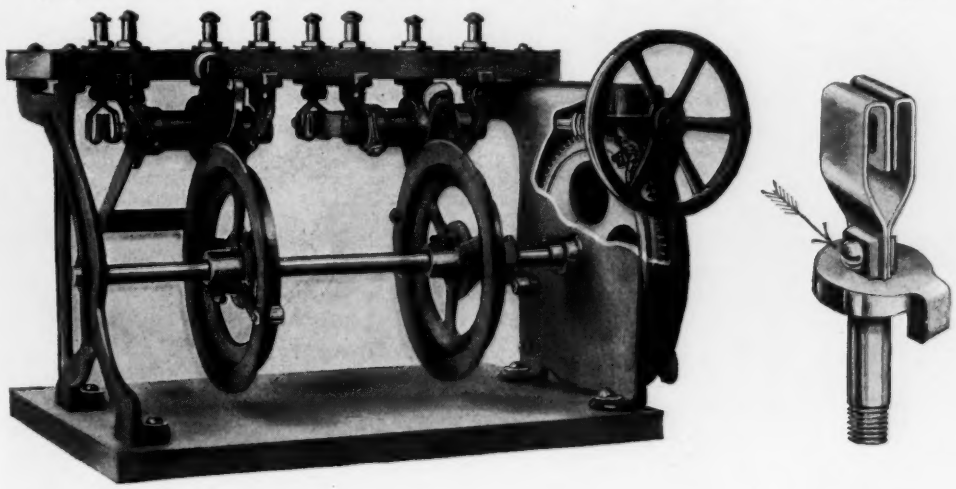
This reflector (made by the Wheeler Reflector Company of Boston) has been designed for window lighting with Mazda lamps and accommodates a 100-w. Mazda lamp fixed permanently in a pendant position. Depending on the nature of the display the reflector may be adjusted to direct the maximum intensity to the floor at the front of the window or at the back wall, and the adjustment may be readily made to suit the requirements of each trim.

Not the least desirable feature of this reflector is its adaptability to any size Mazda lamp. With a heavy display of dark goods, 100-w. lamps should be used, but when the display consists of white goods a lower candle-power unit will give equally as good an effect and the adjustable feature permits the use of 40, 60 or 100-w lamps as occasion may require. The proper position for this reflector is with the centre of the outlet 9″ from the glass—so as to admit of extreme adjustment—and spaced from 16″ to 28″ apart from centre to centre according to the height. Where the reflector comes down below the top of the glass, the upper part of the window may be painted or preferably a short curtain may hide the reflectors from the view of passersby, as is shown in the photograph of the Hanan installation.

The Reynolds Electric Sign Flashers

The Reynolds Electric Flasher Company of Chicago has recently perfected a new electric sign flasher which contains many novel features of simplicity and durability.

Pioneers in this class of work, the engineers of the company have always recognized the necessity of correct mechanical design and last year they secured the services of a former superintendent and master mechanic of one of the largest clock factories—a man of large and varied experi-



ence in the manufacture of electrical and mechanical apparatus.

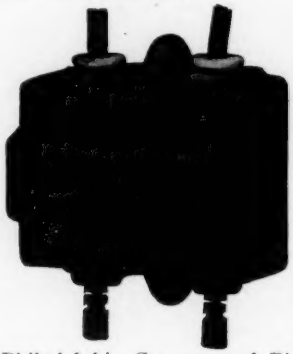
The new flasher is the result of his work. The switches are particularly strong and durable and operated positively by toothed wheels—not cams. The Reynolds Company has always maintained that good copper switches without auxiliary complications of carbon contacts, etc., will give the best service and the new flasher is made on this principle. The large copper jaws are self-lubricating and of ample proportions to dissipate any heat caused by arcing. The worm gearing runs completely in oil and the make and break is done by roller teeth. All the movements are therefore made with a minimum of friction and wear requiring practically no attention and running for years without repairs. The parts are made interchangeable and their renewal requires no mechanical ability, so that repairs can be made at once in case of accident.

No chain drives are employed, and if various speeds are required, the different ratios are obtained by accurately cut gears. Before leaving the factory, the flashers are tested on a lamp board which duplicates the sign for which they are intended and final adjustment made before shipment. As the flashers are built up at the factory from raw material—not simply assembled from purchased parts—improvements in design can be more quickly adopted and the manufacturing cost kept down.

The illustrations show a complete flasher and some details of construction. Each flasher carries the maker's guarantee of satisfactory service.

Westinghouse Bell-Ringing Transformer

The new bell-ringing transformer made by the Westinghouse Electric and Manufacturing Company is designed to replace the battery equipment for electric bells, and annunciators at a price comparing favorably with that of the batteries and with greatly increased reliability. While the cost of operation is practically negligible it gives the central station solicitor an opportunity to relieve his customers of a fecund source of household worry—the "dead" battery—and brings the electric service one lap nearer to its goal, indispensability.



The Philadelphia Company of Pittsburg, Pa., has thrown out its batteries and is equipping its entire building next to the Public Safety Building on Sixth Avenue with the Westinghouse bell-ringing transformers.

Flat Rates Gaining in Favor

Mr. J. Lawrence, director of the Therol Co. of London, Eng., who is now at 30 Church St., New York states that he has been surprised at the interest taken by American central station men in the question of flat rates. The Therol system obtains a a 100 per cent load factor by heat storage in a cast iron block, 300 to 400 watts being used continuously for an ordinary dwelling and necessarily on a fixed charge per month basis. Mr. Lawrence says, "The prejudice against a uniform rate which I expected to meet in this country, if it ever existed, seems to have disappeared and I believe this is largely due to the general introduction of the tungsten lamp. Our domestic apparatus can do all the lighting, hot water heating and cooking for a family at a much lower maximum demand when tungstens are used so that the high-efficiency lamp has benefited us in more ways than one."

Illuminated Elevator Threshold

A very clever device is being introduced by the Illuminated Elevator Threshold Co. of St. Louis, consisting of a metal plate containing glass lenses, beneath which two bung-hole incandescent lamps are placed. The light shines through the lenses and serves to prevent tripping when entering the elevator.

News and Reviews

Commercial Day at St. Louis

Commercial Day promises to be a bigger feature of the 1910 National Electric Light Asso. Convention than in any previous year. The program committee has arranged for a series of papers which deal with larger aspects of the commercial problem and the discussion will bring out phases of new business department work not heretofore touched at these sessions. The program tentatively announced is as follows:—

RESIDENCE LIGHTING.....H. J. Gille
LATITUDE IN COMMERCIALISM.....
.....Arthur S. Huey
INDUSTRIAL LIGHTING WITH INCANDESCENT LAMPS.....
..J. D. Hoit, H. S. Hall, P. F. Bauder
OFF-PEAK LOAD.....R. S. Kelch
PROMPT EXECUTION OF ORDERS.....
.....Clare N. Stannard
A PLAN TO INTEREST NATIONAL ADVERTISERS IN ELECTRIC PUBLICITY.....
.....Frank B. Rae, Jr.
AVERTISING..C. W. Lee and H. K. Mohr
ORNAMENTAL STREET LIGHTING.....
.....E. L. Elliott
COMMERCIAL DEPARTMENT ORGANIZATION.....T. I. Jones
ELECTRIC AUTOMOBILES..Hayden Eames

In addition to the above it is possible that a paper on "The Effect of High Efficiency Lamps on Central Station Income" may be secured.

While the plans of the committee are yet in a formative state, enough has been done to insure a most successful and instructive Commercial Day. The old idea that these sessions should be given over to nothing practically but papers and discussions on soliciting and advertising has given place to a new policy. The plan of this year's program is much wider, tending to show that central station commercialism instead of being a mere side issue of the business is in reality of equal scope and importance with both public policy and engineering.

Among the papers which will be presented, especial attention might be called to the one on "Industrial Lighting with Incandescent lamps," which is being prepared by a committee of illuminating and commercial engineers of the National Electric Lamp Association. This paper promises to be, in effect, a text book on industrial lighting and will cover every phase of this important subject. It will be very fully illustrated with views showing both good and bad methods and will contain not only specific instructions as to how these installations should be made but will give the whys and wherefores.

Mr. Arthur S. Huey's paper on "Latitude in Commercialism" will also attract much attention. Mr. Huey as vice-president of H. M. Byllesby & Co., of Chicago, has had wide experience in supervising the managements of plants controlled by his organization. His views upon the qualifications of a successful central station manager are radical, to say the least, as he considers the ability to understand or draft a franchise to be of quite as much importance as the ability to plan the enlargement of a power plant, and gives greater credit to the man who can "handle" a newspaper reporter than to the man who reduces the fuel costs.

The papers on electric advertising, automobiles, and street lighting will bring these subjects down to date and show the latest successful practices in enlarging these departments of the business.

The committee having charge of this year's Commercial Program consists of: George Williams, Chairman, J. F. Becker, J. Robert Crouse, H. J. Gille, C. W. Hare, V. A. Henderson, Arthur S. Huey, Percy Ingalls, C. W. Lee, E. W. Lloyd, H. K. Mohr and Frank B. Rae, Jr., Secretary.

S. B. Burroughs

Mr. S. B. Burroughs, who for some years has been manager of the commercial department for the Connecticut Company, Waterbury, Conn., has joined the staff of the Public Service Corporation of N. J. He will undertake the developing of sign business throughout the entire territory of the Public Service Corporation

Mr. Burroughs is the brother-in-law of Mr. W. W. Freeman, vice-president of the Brooklyn Edison Company, and obtained his first experience in central station work in Brooklyn.

$1500 in Prizes for Rate Data

Fifteen hundreds dollars in prize money has been offered by The Central Station Development Co., of Cleveland, Ohio, for 21 papers presenting the best solutions to the central station rate problem. These prizes will run: $500 for the first prize, $250 for the next two, $100 for the next three, $20 for the next five and $10 for the next ten papers chosen. These contesting papers must be based on a paper entitled, "The Cost of Light," by Mr. S. E. Doane, Chief Engineer of the National Electric Lamp Association, which was read before the Canadian Electrical Light Association last year. Copies of Mr. Doane's paper will be furnished to all who wish to enter the competition.

Mr. Doane holds that rates should be computed upon a basis of fixed charges as well as kwh. consumed, the latter element to be scaled so low that the loss in lighting revenue occasioned by a replacement of carbon lamps by high efficiency equipment would hardly exceed the reduction in station costs. With such a rate the capacity released becomes at once available for securing new consumers, who represent a large margin of profit, inasmuch as the old customers are already, in effect, paying one component of their rate. This would gradually permit of a reduction in the stated rate and result in a constant stimulation of the market for current, through the apparent steady decrease in cost to consumer. In addition to this, it would act as a protection to the central station against such sudden inroads on revenue as have been occasioned in the past by the introduction of current consuming apparatus of higher efficiency.

Only those directly connected with central stations or municipal plants will be eligible to compete for these prizes, and all contributions must be clearly written and comprehensive in their treatment of the subject. The plan of rates must cover every application of central station service, completly worked out, with such plans and illustrations as are necessary to present the proposition in a lucid manner.

All competing papers must be submitted on or before June 15, 1910. The committee of award will be composed of five of the leading central station men of the country, whose names will be made public on June 1st, preceding the close of the contest.

Annual Dinner Brooklyn Edison Sales Department

The Sales Department of the Edison Electric Illuminating Co. of Brooklyn held their annual dinner on Saturday Evening, March 19th, at the Hof Brau Haus, Brooklyn. About 50 covers were laid. Mr. T. I. Jones, General Sales Agent, acted as toast master, and the guests of the department were the officers of the company, each of whom delivered an address. After the speeches a vaudeville program was presented.

Conklin and Greenwich Join J. G. White & Co.

Mr. L. H. Conklin, formerly general manager of the Scranton Electric Co., has joined the organization of J. G. White & Co., New York City, as an engineer in their operating department. Mr. C. A. Greenwich, formerly general manager of the Electrical Department of the Utica (N. Y.) Gas & Electric Co., has also been engaged by J. G. White & Co. to serve them in a like capacity.

Doherty Company Takes Over Meridian, Miss.

Henry L. Doherty & Co. of New York City have purchased the lighting and street railway properties of Meridian, Miss. It is announced that about $200,000 will be spent in needed improvements, and Mr. George Williams, commercial manager of the Doherty interests, is now on the ground inaugurating a campaign for the development of new business. Mr. Charles Varney, formerly a member of the new business department of the Lincoln (Nebr.) Gas & Electric Light Co., has been appointed new business manager of the Meridian Light & Railway Co.

St. Louis Company Section, N. E. L. A.

A company section of the N. E. L. A. has been organized among the employees of the Union Electric Light & Power Co., St. Louis. About 160 members are enrolled.

Ludwig A. Kemper

Mr. Ludwig A. Kemper, who since 1905 has been Manager of the Albert Lea (Minn.) Light & Power Co., has resigned from that company and joined the engineering staff of the Fuel Engineering Co., Chicago, Ill.

Professor Latta Instructing G. E. Men

J. E. Latta, head of the electrical engineering department of the University of North Carolina, has resigned to take a position with the General Electric Company's Lamp Works at Harrison. Mr. Latta has devoted much study to illumination and kindred subjects and besides his other work he will assist in the instruction of the special lamp experts being trained by the sales department. Mr. Latta is also giving three half-hour lectures per week during the noon hours to the factory employees on the elements of commercial electrical illuminating engineering.

Another Toronto Power Man

Mr. Herman Akhurst, formerly of the Chattanooga (Tenn.) Electric Light and Power Co., has joined the Power Department of the Toronto Electric Light Co., Ltd.

G. W. Barlow

Mr. George W. Barlow, who has for some time headed the New Business Department of the Indiana & Michigan Electric Co., South Bend, Ind., has accepted a position with the General Electric Co. Sales Department and is connected with the Chicago office.

40 Cents a Month Toaster

The Commonwealth Edison Co. of Chicago is advertising electric toasters for sale to its customers on the basis of $0.40 per month for twelve months. These installations are to be added to each monthly lighting bill. The toasters are being demonstrated during the day and evening at the Electrical Shop, where customers are requested to call.

H. W. Hillman

Mr. H. W. Hillman has tendered his resignation as manager of the Grand Rapids-Muskegon Power Co., Grand Rapids, Mich. with different chairman, only the secretary

Co-operative Newspaper Ads. in Cleveland

The Cleveland Electric Illuminating Co., Cleveland Ohio, has initiated a series of co-operative ads in the local papers, appearing in the form of a weekly full-page display. This page includes advertisements of various manufacturers and dealers, as well as the central station, and about one-third of the space is given up to news items entitled "Sparks from the Electrical World."

The Central Station Development Co. have reprinted these displays and distributed them among all the central stations, jobbers, dealers, contractors and leading newspapers throughout the country, believing that they will have suggestive value.

This recalls the newspaper campaign conducted in Buffalo a year ago or so under the guidance of the local headquarters of the Rejuvenated Sons of Jove.

George B. Millard

Mr. George B. Millard, formerly a member of the new business department of the Dayton Lighting Co., has been appointed manager of the Xenia Gas & Electric Co., Xenia, Ohio.

The Model Laundry

The Hurley Machine Co. of Chicago have opened a retail store at 31 E. Monroe St., Chicago, in which they have arranged a model electric laundry. Daily demonstrations are given from 9 A. M. to 6 P. M., to which the public is invited.

Boston Edison Business Launches

The Sales Department of the Edison Electric Illuminating Co. of Boston has for some time held daily meetings at the close of the business day, for the dicussion of business details and the promotion of more friendly relations between the agents themselves. These meetings have been productive of much good, but it was decided that even better results could be obtained by having the men meet in groups of eight or ten with a chairman and secretary. Meetings are now held tri-weekly during the noon hour in some nearby restaurant, where a simple lunch is served and assignments are made so that different groups of men meet

holding over from one meeting to another. It is one of the duties of the chairman to arrange for one or two invited guests who may come from other departments of the Company or from some outside central station or manufacturer, and these guests take up questions in which all present are mutually interested.

At the invitation of Mr. James I. Ayer of the Simplex Electric Heating Co., several of these lunches have been held at the Simplex factory in Cambridge, after which the men inspected the plant and studied the process of manufacturing heating appliances.

Day Current in Wooster

The Wooster Electric Co., Wooster, Ohio, has inaugurated a 24-hour service. Two Westinghouse alternators of 250 and 75 kw. capacity have been installed to take care of the increased load, which is expected.

Col. C. V. Hard, General Manager of the company, reports the prospects for day business very promising.

Activity in Easton

The Easton Gas & Electric Co. reports an increase of two men in their commercial department. This makes a total of ten men.

An interesting outgrowth of the famous Easton "Slogan" sign is a recent action on the part of the Phillipsburg, N. J., Board of Trade. Easton and Phillipsburg are rival cities on opposite sides of the Delaware river, and after watching the success of the Easton "slogan" sign, it has been decided to employ the same method of advertising for Phillipsburg.

Byllesby Publicity Department

The rapid growth of H. M. Byllesby & Company, of Chicago, and the constantly increasing number of cities and towns in which it owns, operates and manages utility properties, has caused the company to open a department of publicity. The new department will handle both the commercial and educational advertising of the organization, and will be in charge of William H. Hodge. Mr. Hodge, formerly was managing editor of the monthly magazine, *Public Service*, and is a specialist in publicity work for utility companies.

Minneapolis Electric Show

The first Annual Electric Show of Minneapolis was held under the auspices of the Northwestern Electric Show Association on March 26 to April 2nd The show was a great success, being very strongly supported by both exhibitors and public.

The Armory of the Minneapolis National Guard proved a very effective setting for the varied display of electrical products and the decorations were of a very high order, arc glass domes, miniature incandescent lamps and searchlights being used to great advantage.

The Minneapolis General Electric Co. was the largest exhibitor, and a feature of their section was a completely appointed four-room apartment, equipped with every known electrical home convenience.

Fifth Avenue Window Illumination

An interesting experiment in electric advertising has been made by the Fifth Avenue Association, an organization of merchants along that celebrated New York City thoroughfare. For a period of three weeks, all the windows in the first and second stories of their shops on both sides of the avenue between Thirty-eight and Thirty-ninth streets were brilliantly illuminated until half-past eleven o'clock each night.

The Fifth Avenue Association for many months has been urging upon Fifth avenue merchants the necessity of combining and doing something to make the thoroughfare especially attractive at night. It was not until the Hudson-Fulton celebration brought vast crowds to Fifth Avenue at night, however, that many of the merchants realized that they were standing in their own way by keeping their show windows dark when they were not open for business.

The effect of the window illumination on the appearance of the street was remarkable and a large crowd of people was attracted. An actual count made on the first Monday evening showed that 1263 persons had passed a given point between the hours of eight and nine, as against 429 on the previous Monday evening. Steps are being taken to insure a permanent illumination of windows along the avenue.

An A. & W. Sign

Distinctive in Design
Animated and Attractive

THIS SIGN

Installed by the Union Electric Company, Dubuque, Ia., 40 feet high by 12 feet wide, contains 900 lamps, operated by a flasher, giving flaming effect to torches and several combinations on border, crown and words.

MR. CENTRAL STATION MAN,
USE YOUR OWN POWDER,
"ELECTRICITY FOR PUBLICITY"

and use it in an A. & W. Electric Sign.

MAIL TODAY

size of available sign space and wording; tomorrow you will get a finished design and estimate.

The A. & W. Electric Sign Co.

CLEVELAND, OHIO

Buckeye Supremacy in Industrial Lighting

INDUSTRIAL Lighting is a distinct branch of Illuminating Engineering, and a mastery of this im ortant subject requires deep study, long experimentation and wide experience. The Buckeye Electric Company was the first incandescent lamp manufacturer to recognize the importance of this subject, the first to appropriate sufficient funds to master it, and the first to establish a Department of Industrial Lighting upon a practical basis and under the charge of men experienced in mill and factory conditions. Our experts will be glad to co-operate with central stations or others in solving industrial lighting problems. Their services are offered without charge.

THE BUCKEYE ELECTRIC CO.

MAIN OFFICE AND WORKS:
CLEVELAND, OHIO

CHICAGO:
23 East Lake Street

PITTSBURG:
Fulton Building

DALLAS:
220-221 Linz Building